

No. 1
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IN THE UNITED STATES PATENT & TRADEMARK OFFICE

In re Application of
von Deyn et al.
Serial No. 09/091,300
Filed: January 08, 1998 as PCT international application
Priority: January 17, 1997
For: 3-Heterocyclyl-substituted benzoyl derivatives

DECLARATION

I, Matthias Christian Witschel, a doctor of natural sciences, a citizen of the Federal Republic of Germany and residing at 81, Wittelsbachstrasse, 67061 Ludwigshafen, Germany, declare as follows:

I am a fully trained chemist, having studied chemistry at the University of Erlangen-Nuremberg, Germany, from 1985 to 1994;

I was awarded my doctor's degree by the University of Erlangen-Nuremberg in 1994;

I was a post-doctoral fellow at the Stanford University from 1994 to 1995;

Since 1996, when I joined BASF Aktiengesellschaft of 67056 Ludwigshafen, Germany, I have been engaged in the synthesis of herbicides and herbicide screening;

I am one of the inventors of the invention disclosed and claimed in Application No. 09/091,300 and therefore I am familiar with the field to which the said application relates.

I have studied the Office Action that has issued in this case and read the references cited therein.

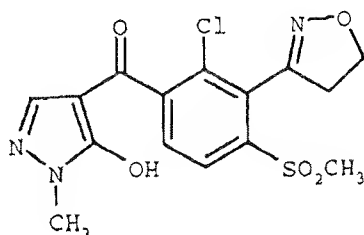
In order to prove the superior herbicidal action of the inventive 3-heterocyclyl-substituted benzoyl derivatives I over the compounds of von Deyn et al. (WO 96/26,206 = US 5,846,907) I compared the herbicidal activity of compounds 3.35, 3.90, A and B according to application Serial No. 09/091,300 with the structurally closest compounds of von Deyn 1.267, 5.4 and 5.5.

The experiments were carried out as described in Application Ser. No. 09/091,300 (see page 159, line 16 to page 160, line 9). The plants used in these experiments belong to the following species:

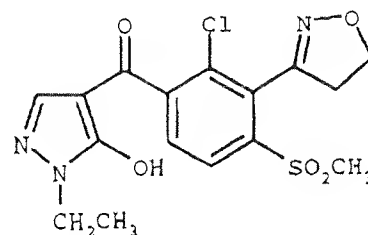
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Scientific Name	Common name
<i>Abutilon theoprasit</i>	Velvetleaf
<i>Amaranthus retroflexus</i>	Pigweed
<i>Avena fatua</i>	Wild oat
<i>Brachiaria platyphylla</i>	Signalgrass
<i>Chenopodium album</i>	Lambsquarters
<i>Digitaria sanguinalis</i>	Crabgrass
<i>Echinochloa crus-galli</i>	Barnyardgrass
<i>Gallium aparine</i>	Catchweed
<i>Polygonum persicaria</i>	Ladysthumb
<i>Setaria italica</i>	Millet
<i>Setaria viridis</i>	Green foxtail
<i>Sinapis alba</i>	White mustard
<i>Stellaria media</i>	Common chickweed
<i>Zea mays</i>	Corn

Table 1: Herbicidal action of compound 3.35 of the present invention and comparison compound no. 5.5 of WO 96/26,206 at an application rate of 125 and 62.5 g/ha of active ingredient (post emergence treatment in greenhouse)



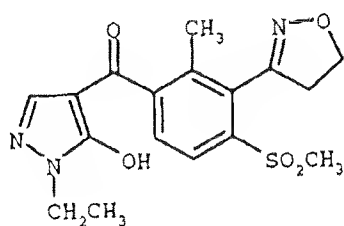
compound 3.35

comparison compound no. 5.5
(WO 96/26,206)

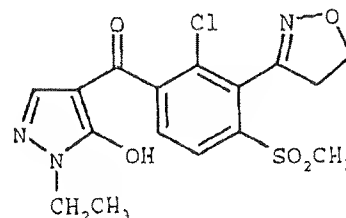
Application rate	125 g/ha	62.5 g/ha	125 g/ha	62.5 g/ha
	Damage [%]			
Crop plant				
<i>Zea mays</i>	0	0	20	10
Unwanted Plants				
<i>Avena fatua</i>	80	80	70	70
<i>Chenopodium album</i>	98	98	95	95
<i>Galium aparine</i>	80	80	70	70
<i>Setaria viridis</i>	100	100	98	98

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Table 2: Herbicidal action of compound 3.90 of the present invention and comparison compound no. 5.5 of WO 96/26,206 at an application rate of 62.5 and 31.2 g/ha of active ingredient (post emergence treatment in greenhouse)

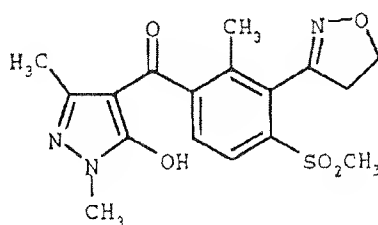


compound 3.90

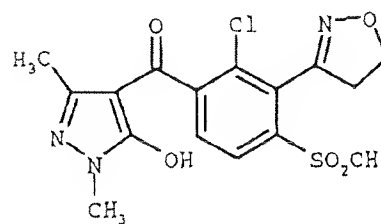
comparison compound no. 5.5
(WO 96/26,206)

Application rate	62.5 g/ha	31.2 g/ha	62.5 g/ha	31.2 g/ha
	Damage [%]			
Crop plant				
Zea mays	10	0	20	0
Unwanted Plants				
Abutilon theophrasti	80	80	75	60
Amaranthus retroflexus	80	80	70	60
Digitaria sanguinalis	100	100	100	98
Setaria Italica	95	90	90	85

Table 3: Herbicidal action of compound A of the present invention and comparison compound no. 5.4 of WO 96/26,206 at an application rate of 62.5 and 31.2 g/ha of active ingredient (post emergence treatment in greenhouse)



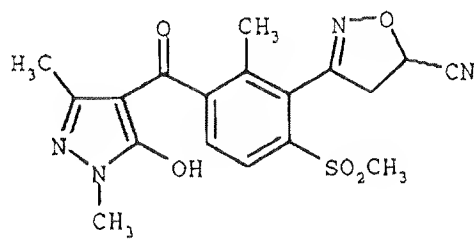
compound A

comparison compound no. 5.4
(WO 96/26,206)

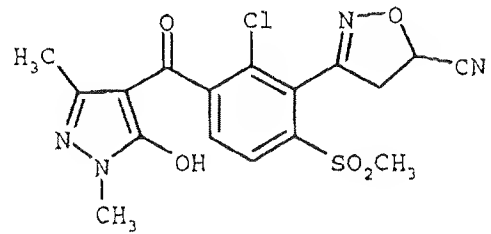
Application rate	62.5 g/ha	31.2 g/ha	62.5 g/ha	31.2 g/ha
	Damage [%]			
Abutilon theophrasti	90	85	85	65
Brachiaria platyphylla	90	80	80	65
Polygonum persicaria	98	70	75	65
Sinapis alba	100	100	90	85
Stellaria media	100	100	90	85

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Table 4: Herbicidal action of compound B of the present invention and comparison compound no. 1.267 of WO 96/26,206 at an application rate of 250 and 125 g/ha of active ingredient (post emergence treatment in greenhouse)



compound B

comparison compound no. 1.267
(WO 96/26,206)

Application rate	250 g/ha	125 g/ha	250 g/ha	125 g/ha
	Damage [%]			
Amaranthus retroflexus	90	90	40	30
Echinochloa crus-galli	90	85	70	40
Chenopodium album	98	95	90	90
Setaria viridis	70	50	40	30

The above-mentioned results clearly show the excellent herbicidal activity of the compounds at issue. They make a higher degree of control of unwanted plants possible, especially at lower application rates, compared with the closest compounds known from the prior art.

I further declare that all statements made herein of my own knowledge are true and that all statements made on information or belief are believed to be true; and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Signed at 67056 Ludwigshafen, Germany, this 21st day of October, 1999.

Signature of Declarant